

CHAPTER 20

DATA MANAGEMENT PLAN, POSTDOCTORAL RESEARCHER MENTORING PLAN, LETTERS OF COLLABORATION and APPENDICES

With several exceptions, NSF requires that all supporting information related to the project be included between the Cover Sheet and the Facilities, Equipment and Other Resources section. The exceptions are uploaded into specific subsections of FastLane's "Supplementary Documents" section. The subsections are: "Data Management Plan," "Mentoring Plan," "Project Summary with Special Characters," and "Other Supplementary Docs." Uploads into the first three subsections no longer have to be in PDF. They will be converted to PDF automatically.

DATA MANAGEMENT PLAN

The name for this part of the application, "Data Management Plan" (DMP), is an unfortunate choice because it doesn't really denote its full purpose; "Plan for Data Management and Sharing" would be much more accurate and informative. NSF has long had a policy requiring grantees to disseminate and share information and products of their research. The policy just hasn't been enforced very often. The requirement now is that applications **MUST** contain a DMP - and that mandate will be enforced: If your application does not contain a DMP it will not be accepted by NSF. You won't even be able to submit your proposal through the FastLane submission system if this section hasn't been completed. Further evidence of the seriousness of NSF's current commitment is a relatively new part of its website (see <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>) that is specifically dedicated to dissemination and sharing of results. A Frequently Asked Questions page is also available at <http://www.nsf.gov/bfa/dias/policy/dmpfaqs.jsp>.

In terms of how to include a DMP in your application, there is a dedicated upload site under FastLane's "Supplementary Documents" section. (For submission through Grants.gov the document would be uploaded into the "Add Other Attachments" field (#12) of the "Other Project Information" form.) Accordingly, your DMP will not be counted as part of the 15 pages allowed for the Project Description of a standard-grant proposal. The DMP is limited to a maximum of two pages. If two pages are insufficient to explain how data and other products of the proposed research will be managed and shared, you can use part of the Project Description to provide additional relevant information. That overage would count against the 15-page limit of a standard-grant application, however.

If you are simultaneously submitting collaborative project applications, or if you have a sub-award to another institution as part of your proposal, only one Data Management Plan should be written by the PI at the lead institution.

The Data Management Plan is reviewed as part of either Intellectual Merit, Broader Impacts, or both.

A one-size-fits-all approach to data management and sharing has not been possible at NSF. Therefore, the part of NSF to which you are applying may have its own specific instructions regarding what should be included in the DMP. Such instructions supersede the suggested-content instructions contained in the *Proposal and Award Policies and Procedures Guide*, which are: "(1) the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project; (2) the standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies); (3) policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements; (4) policies and provisions for re-use, re-distribution, and the production of derivatives; and (5) plans for archiving data, samples, and other research products, and for preservation of access to them." If there are additional requirements, you can determine what they are by visiting <http://www.nsf.gov/bfa/dias/policy/dmp.jsp>. Simply scroll down to the section that is titled, "Requirements by Directorate, Office, Division, Program or Other NSF Unit" and click on the relevant button. It is VERY important that you do this before you write your DMP.

We recommend that you draft this part of your application by starting with a bulleted outline. Create subheadings using each of the preceding 5 points from the *Proposal and Award Policies and Procedures Guide* that is relevant to your needs. In addition, be sure to create subheadings for any special considerations that are required by your Directorate, Office, Division, Program or other unit of NSF that are relevant to your proposal.

It is possible to include as your Data Management Plan a statement to the effect that no such plan is needed. That statement will be subjected to peer review. Therefore, if that approach is elected, it should be accompanied by compelling justification as to why a DMP is not appropriate. We strongly recommend against taking such an approach unless you are offering a project that won't produce data/products that require management and/or sharing.

A number of useful links to data-management resources can be found by inserting "Data Management Plan NSF Example" into any Internet search engine.

POSTDOCTORAL RESEARCHER MENTORING PLAN

If you request funding in the Budget of your research-grant proposal for one or more postdoctoral researchers, regardless of their physical location (submitting institution, sub-award institution or at an institution that is participating in a simultaneously submitted collaborative project), you must prepare and submit a Postdoctoral Researcher Mentoring Plan (PRMP) as part of your application. In the case of either a simultaneously submitted collaborative project [*Proposal and Award Policies and Procedures Guide* Chapter II, Section D.3] or a sub-award, only one PRMP is required, written by the PI of the lead institution.

The Mentoring Plan is limited to no more than one page unless the funding opportunity to which you are responding instructs otherwise. If you exceed the page limit for the PRMP your application may be returned to you without review.

If you have included support for a postdoctoral researcher in your Budget and do not include a

Postdoctoral Researcher Mentoring Plan, in almost all cases NSF will not accept your proposal. The one exception: You do not need to write a PRMP if the postdoctoral researcher is included as a member of the Senior Personnel group (line A of the Budget). To be credible, the project role for such an individual, as described in the Budget Justification, should include independent scientific and/or technical responsibility for an important part of the project. That usually means a very senior postdoc, who the reviewers may regard as being only a short-term contributor.

Regardless of the kind of electronic submission system you are using, the PRMP will not count as part of the 15-page Project Description. If you are using FastLane to prepare your application there is a dedicated field in the FastLane template for upload of the PRMP. It is under "Supplementary Documents" and is titled "Mentoring Plan." (If you are submitting your proposal through the Grants.gov system your Plan should be uploaded into the "Add Other Attachments" field (#12) of the Other Project Information form.)

During merit review of your proposal the PRMP will be evaluated under the second major review criterion, Broader Impacts.

The PRMP must not contain information that is relevant to your Project Description. If it were to contain such information you would run the risk of it being considered an attempt on your part to circumvent the 15-page limit for the Project Description of a standard grant proposal.

The *Proposal and Award Policies and Procedures Guide* (Chapter II, Section C.2.f) offers examples of what could be included in a PRMP: "Examples of mentoring activities include, but are not limited to: career counseling; training in preparation of grant proposals, [developing] publications and presentations; guidance on ways to improve teaching and mentoring skills; guidance on how to collaborate effectively with researchers from diverse backgrounds and disciplinary areas; and training in responsible professional practices." To develop this document, as with the Data Management Plan, we recommend that you start with a bulleted outline that uses the relevant activities in the preceding list as subheadings. Subheadings should also be created for activities you plan to include that aren't part of the *Proposal and Award Policies and Procedures Guide's* list. Be sure to make full use of relevant activities that are already available through your institution, e.g., training in the responsible conduct of research or ethical use of vertebrate animals. After completing your outline, simply expand the bullets into complete sentences to produce the first draft of your PRMP.

Examples of PRMPs can be found by inserting "Postdoctoral Researcher Mentoring Plan NSF Example" into any Internet search engine.

It is not necessary to submit a Postdoctoral Researcher Mentoring Plan if you are preparing a conference, symposium or workshop proposal. In the latter circumstance you do need to upload a substitute supplementary document, however, which reads: "Not applicable - Conference [or Symposium or Workshop] Proposal." Most individual postdoctoral fellowship applications do not require a PRMP. There are exceptions, however. Therefore, if you are either making such an application or are supervising someone who is, search the related solicitation to ascertain whether or not a PRMP is required as a part of the proposal.

PROJECT SUMMARY WITH SPECIAL CHARACTERS SUBSECTION

The standard FastLane template for the Project Summary will not accommodate special characters, e.g., Greek letters. If you have such a Project Summary, it must be uploaded here, in the

dedicated "Project Summary with Special Characters" subsection of "Supplementary Documents," rather than through use of the Project Summary template. If you use this option don't forget to check the box on the standard FastLane Project Summary page that tells reviewers and Program Staff that you have done so.

OTHER SUPPLEMENTARY DOCS SUBSECTION

General letters of support are not allowed and, if included, could cause your application to be returned without review (see Chapter II, Section C.2.j (fourth bullet, third paragraph) of the *Proposal and Award Policies and Procedures Guide*). (The exception is a solicitation that specifically requires a letter of support.) Letters of collaboration, on the other hand, must accompany your application if you propose unfunded collaborations in it (see Chapter II, Section C.2.d.(iv) of the PAPPG). Thus, if you were proposing interactions with the faculties of several middle schools, you would accompany your application with letters of collaboration from the principals of those schools attesting to the fact that their faculties have agreed to participate. Each letter would be in the abbreviated format that is described in Chapter II, Section C.2.j of the PAPPG, with details included in the Project Description. As another example, if a researcher were to agree to supply a reagent that is essential to part of the research that you propose, providing that the individual is not included in the *Budget* as a paid consultant, you would need a letter of collaboration, as described above, from that individual confirming that you will have access to the needed reagent. If that person were included in the *Budget* as a paid consultant, you would not include such a letter. The details of the collaboration would be included in the Budget Justification. Letters of collaboration are submitted by uploading them into the "Other Supplementary Docs" subsection of FastLane's "Supplementary Documents" section.

Other kinds of information are also uploaded into the FastLane "Other Supplementary Docs" field. They are listed in Chapter II, Section C.2.j of the *Proposal and Award Policies and Procedures Guide*. The most straightforward of these pertain to programs that have special requirements, such as RUI, REU, ROA, or FASED, or any other that makes special stipulations in the related solicitation. Others aren't quite so straightforward. For example, if you are proposing that part of the research be done off-site, you must provide a rationale as to why that is necessary. Doing so here eliminates the need to do so in either the Project Description or Budget Justification, both of which have page limitations. The same point pertains to projects that will/ could have a negative environmental impact. Explaining and justifying inclusion of such activities here would have no impact on the length of the Project Description/ Budget Justification. Other parts of the list include research that will be conducted in certain foreign countries, Greenland, Antarctica, or historical sites; research that involves field experiments involving genetically engineered organisms; documentation that involves human subjects, hazardous materials, vertebrate animals or endangered species; and certain kinds of projects that involve technology utilization/transfer or that require a management plan or that require special reports or final products.

Another example of the use of the "Supplementary Docs" subsection would be to alert NSF to any kind of special handling that is required for your application, such as would be the case for proprietary or privileged information included in the proposal.

If you have questions about any of the above-described uses of the Supplementary Docs field or the appropriateness of what you are considering as eligible for inclusion, we recommend that you contact the relevant Program Officer for guidance.

APPENDICES

Appendices to NSF applications cannot be included unless you have obtained a deviation from this prohibition before your application is submitted. Guidelines regarding how to obtain such a deviation are contained in Chapter II, Sections A and C.2.k of the *Proposal and Award Policies and Procedures Guide*.

DEVELOPMENTAL STEPS FOR CHAPTER TWENTY:

1. Understand how the FastLane "Supplementary Documents" section is set up, with four subsections.

Data Management Plan:

2. Understand that the Data Management Plan isn't just about managing. It is about management and sharing.
3. Know that the page limit for a DMP is two, but that additional information can be included in the Project Description if two pages is insufficient to fully describe the Plan. The additional information counts against the page limit for the Project Description, however.
4. Appreciate that the content of the DMP varies with the program/part of NSF that is being targeted. That makes it necessary to carefully read the solicitation, as well as the *Proposal and Award Policies and Procedures Guide*, in order to produce a DMP that is fully responsive.
5. Start by outlining what you want to cover in your DMP. Then, expand to outline to produce your initial draft.
6. Numerous good examples can be obtained by entering "Data Management Plan NSF Example" into any Internet search engine.

Postdoctoral Researcher Mentoring Plan:

7. Appreciate that, if you include a postdoctoral researcher in your Budget, you MUST include a PRMP with your application.
8. The PRMP must be one page or less.
9. Your PRMP would be uploaded into FastLane using the "Mentoring Plan" subsection of the "Supplementary Documents" section.
10. Suggestions as to what to address in a PRMP are included in the *Proposal and Award Policies and Procedures Guide*.
11. Start by outlining, not by trying to write things out in full. When the outline is complete, expand it into your first draft and then edit to bring it within the one-page limit.
12. Numerous examples of PRMPs can be found online by typing "Postdoctoral Researcher Mentoring Plan NSF Example" into any Internet search engine.

Project Summary with Special Characters:

13. The standard template for the Project Summary will not accommodate special characters, such as Greek letters. A Project Summary that contains special characters must be uploaded as a Supplementary Document, therefore, to ensure that the special characters will not be lost or corrupted.

Other Supplementary Docs:

14. The document that is most often uploaded into this subsection is a single-page compilation of all letters of collaboration that are related to the project.
15. Many solicitations have special requirements that make use of this subsection, so read the

one to which you are responding with that in mind.

Appendix:

16. Appendices cannot be included without getting special approval to do so **before** the proposal is submitted.